

Claims

1. An underwater alert system comprising:

a first transmitter assembly, adapted to be carried by a first diver, including:

at least a first alert switch adapted to generate at least a first electrical alert actuation signal
5 responsive to the at least the first alert switch being actuated;

a first transmitter electrically coupled to the at least the first alert switch and adapted to generate
at least a first predetermined electrical transmit signal responsive to receiving the at least the first electrical
alert actuation signal, respectively;

a first transmitting element electrically coupled to the first transmitter and adapted to generate at
10 least a first predetermined wireless signal responsive to receiving the at least the first predetermined
electrical transmit signal, respectively; and

a first waterproof transmitter housing adapted to carry at least one of the at least the first alert
switch, the first transmitter and the first transmitting element; and

A1 a first receiver assembly, adapted to be carried by a second diver having a first mask adapted to be
15 worn on the second diver's head, including:

a first receiving element adapted to generate at least a first electrical receive signal responsive to
receiving the at least the first predetermined wireless signal, respectively;

a first receiver electrically coupled to the first receiving element and adapted to generate at least
a first predetermined electrical alert attention signal responsive to receiving the at least the first electrical
20 receive signal, respectively;

at least a first alert device electrically coupled to the first receiver and adapted to generate at
least a first predetermined alert responsive to receiving the at least the first predetermined electrical alert
attention signal; and

a first waterproof receiver housing adapted to carry at least one of the first receiving element, the
25 first receiver and the at least the first alert device;

wherein the first mask is adapted to carry at least the at least the first alert device of the first
receiver assembly in a way that permits the at least the first predetermined alert to gain the attention of the
second diver when the first mask is worn on the second diver's head.

30 2. The underwater alert system according to claim 1 wherein the at least the first alert switch further
comprises:

at least a first pushbutton switch adapted to generate the at least the first electrical alert actuation
signal responsive to the at least the first pushbutton switch being manually actuated by the first diver.

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3. The underwater alert system according to claim 1 wherein the at least the first alert device further comprises:

a visual alert device adapted to generate a predetermined visual alert, as the at least the first predetermined alert, that the second diver can see when wearing the first mask.

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4. The underwater alert system according to claim 3 wherein the visual alert device further comprises:

a first light source adapted to generate a predetermined visible light signal, as the predetermined visual alert.

10 5. The underwater alert system according to claim 1 wherein the at least the first alert device further comprises:

an audible alert device adapted to generate a predetermined audible alert, as the at least the first predetermined alert, that the second diver can hear when wearing the first mask.

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15 6. The underwater alert system according to claim 5 wherein the audible alert device further comprises:
an electro-acoustic transducer adapted to generate a predetermined audible acoustic signal, as the predetermined audible alert.

20 7. The underwater alert system according to claim 1 wherein the at least the first alert device further comprises:

a tactile alert device adapted to generate a predetermined tactile alert, as the at least the first predetermined alert, that the second diver can feel when wearing the first mask.

25 8. The underwater alert system according to claim 7 wherein the tactile alert device further comprises:
a vibrator adapted to generate a predetermined vibration signal, as the predetermined tactile alert.

9. The underwater alert system according to claim 1 further comprising:
a second transmitter assembly adapted to be carried by the second diver and including:

30 at least a second alert switch adapted to generate at least a second electrical alert actuation signal responsive to the at least the second alert switch being actuated;

a second transmitter electrically coupled to the at least the second alert switch and adapted to generate at least a second predetermined electrical transmit signal responsive to receiving the at least the second electrical alert actuation signal, respectively;

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a second transmitting element electrically coupled to the second transmitter and adapted to generate at least a second predetermined wireless signal responsive to receiving the at least the second predetermined electrical transmit signal, respectively; and

5 a second waterproof transmitter housing adapted to carry at least one of the at least the second alert switch, the second transmitter and the second transmitting element; and

a second receiver assembly, adapted to be carried by the first diver having a second mask adapted to be worn on the first diver's head, including:

a second receiving element adapted to generate at least a second electrical receive signal responsive to receiving the at least the second predetermined wireless signal, respectively;

10 a second receiver electrically coupled to the second receiving element and adapted to generate at least a second predetermined electrical alert attention signal responsive to receiving the at least the second electrical receive signal, respectively;

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15 at least a second alert device electrically coupled to the second receiver and adapted to generate at least a second predetermined alert responsive to receiving the at least the second predetermined electrical alert attention signal; and

a second waterproof receiver housing adapted to carry at least one of the second receiving element, the second receiver and the at least the second alert device; and

20 wherein the second mask is adapted to carry at least the at least the second alert device of the second receiver assembly in a way that permits the at least the second predetermined alert to gain the attention of the first diver when the second mask is worn on the first diver's head.

10. The underwater alert system according to claim 9:

25 wherein the first waterproof transmitter housing and the second waterproof receiver housing are integrally formed together to provide a first transceiver housing adapted to be carried by the second mask, and

wherein the second waterproof transmitter housing and the first waterproof receiver housing are integrally formed together to provide a second transceiver housing adapted to be carried by the first mask.

11. The underwater alert system according to claim 10:

30 wherein the first transceiver housing is integrally formed with the second mask, and wherein the second transceiver housing is integrally formed with the first mask.

12. The underwater alert system according to claim 1 further comprising:

a first attachment mechanism adapted to permit the first waterproof receiver housing to be mechanically coupled to the first mask.

5 13. The underwater alert system according to claim 12 wherein the first attachment mechanism further comprises:

10 a first bracket adapted to be carried by the first mask and having a first mounting interface adapted to mechanically engage and disengage a first mounting interface on the first waterproof receiver housing to permit the first waterproof receiver housing to be attached to and removed from, respectively, the first bracket.

AI 14. The underwater alert system according to claim 13 wherein the first bracket further comprises:

a second mounting interface having an adhesive disposed thereon to permit the second mounting interface of the first bracket to be mechanically coupled to the first mask.

15 15. The underwater alert system according to claim 13 wherein the first bracket is integrally formed with the first mask.

20 16. The underwater alert system according to claim 12 wherein the at least the first alert device generates the first predetermined alert when the first waterproof receiver housing is mechanically coupled to the first mask, and wherein the at least the first alert device generates a second predetermined alert when the first waterproof receiver housing is mechanically decoupled from the first mask.

25 17. The underwater alert system according to claim 1 wherein the first waterproof receiver housing is integrally formed with the first mask.

18. The underwater alert system according to claim 1:

wherein the first transmitter assembly further comprises a first transmitter identity selection device adapted to provide the first transmitter with at least a first transmitter identity, and

30 wherein the first receiver assembly further comprises a first receiver identity selection device adapted to provide the first receiver with the at least the first transmitter identity to permit the first receiver to communicate with the first transmitter.

19. The underwater alert system according to claim 1:

wherein the first transmitter assembly further comprises:

a first power supply adapted to provide a first supply of electrical power; and

5 a first power switch adapted to electrically couple the first supply of electrical power to at least one of the at least the first alert switch, the first transmitter and the first transmitting element responsive to the first power switch being actuated; and

wherein the first receiver assembly further comprises:

a second power supply adapted to provide a second supply of electrical power; and

10 a second power switch adapted to electrically couple the second supply of electrical power to at least one of the first receiving element, the first receiver and the at least the first alert device responsive to the second power switch being actuated.

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20. The underwater alert system according to claim 19 wherein at least one of the first power switch and
15 the second power switch further comprises:

a water-activated switch adapted to be actuated responsive to the water-activated switch being located underwater.

21. The underwater alert system according to claim 1 further comprising:

20 a dive computer adapted to generate dive computer data, electrically coupled to the first transmitter and adapted to be carried by the first diver,

wherein the at least the first alert switch further comprises:

25 an electronic switch electrically coupled to the dive computer and adapted to generate the at least the first electrical alert actuation signal responsive to the dive computer data being an undesirable, predetermined value.

22. The underwater alert system according to claim 1 further comprising:

a dive computer adapted to generate dive computer data, electrically coupled to the first transmitter and adapted to be carried by the first diver,

30 wherein the first transmitter is adapted to transmit dive computer data, associated with the dive computer, to the first receiver.

23. An underwater alert system comprising:

a first transmitter assembly, adapted to be carried by a first diver, including:

at least a first alert switch adapted to generate at least a first electrical alert actuation signal responsive to the at least the first alert switch being actuated, wherein the at least the first alert switch further comprises:

at least a first pushbutton switch adapted to generate the at least the first electrical alert actuation signal responsive to the at least the first pushbutton switch being manually actuated by the first diver;

a first transmitter electrically coupled to the at least the first alert switch and adapted to generate at least a first predetermined electrical transmit signal responsive to receiving the at least the first electrical alert actuation signal, respectively;

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a first transmitting element electrically coupled to the first transmitter and adapted to generate at least a first predetermined wireless signal responsive to receiving the at least the first predetermined electrical transmit signal, respectively;

15 a first power supply adapted to provide a first supply of electrical power;

a first power switch adapted to electrically couple the first supply of electrical power to at least one of the at least the first alert switch, the first transmitter and the first transmitting element responsive to the first power switch being actuated; and

20 a first waterproof transmitter housing adapted to carry at least one of the at least the first alert switch, the first transmitter, the first transmitting element, the first power supply and the first power switch; and

a first receiver assembly, adapted to be carried by a second diver having a first mask adapted to be worn on the second diver's head, including:

25 a first receiving element adapted to generate at least a first electrical receive signal responsive to receiving the at least the first predetermined wireless signal, respectively;

a first receiver electrically coupled to the first receiving element and adapted to generate at least a first predetermined electrical alert attention signal responsive to receiving the at least the first electrical receive signal, respectively;

30 at least a first alert device electrically coupled to the first receiver and adapted to generate at least a first predetermined alert responsive to receiving the at least the first predetermined electrical alert attention signal, wherein the at least the first alert device further comprises:

a first visual alert device adapted to generate a first predetermined visual alert, as the at least the first predetermined alert, that the second diver can see when wearing the first mask, wherein the first visual alert device further comprises:

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a first light source adapted to generate a first predetermined visible light signal, as the first predetermined visual alert;

a second power supply adapted to provide a second supply of electrical power;

5 a second power switch adapted to electrically couple the second supply of electrical power to at least one of the first receiving element, the first receiver and the at least the first alert device responsive to the second power switch being actuated; and

a first waterproof receiver housing adapted to carry at least one of the first receiving element, the first receiver, the at least the first alert device, the second power supply and the second power switch;

10 wherein the first mask is adapted to carry at least the at least the first alert device of the first receiver assembly in a way that permits the at least the first predetermined alert to gain the attention of the second diver when the first mask is worn on the second diver's head; and

AI a first attachment mechanism adapted to permit the first waterproof receiver housing to be mechanically coupled to the first mask.

15 24. The underwater alert system according to claim 23 further comprising:

a second transmitter assembly, adapted to be carried by the second diver, including:

at least a second alert switch adapted to generate at least a second electrical alert actuation signal responsive to the at least the second alert switch being actuated, wherein the at least the second alert switch further comprises:

20 at least a second pushbutton switch adapted to generate the at least the second electrical alert actuation signal responsive to the at least the second pushbutton switch being manually actuated by the second diver;

25 a second transmitter electrically coupled to the at least the second alert switch and adapted to generate at least a second predetermined electrical transmit signal responsive to receiving the at least the second electrical alert actuation signal, respectively;

a second transmitting element electrically coupled to the second transmitter and adapted to generate at least a second predetermined wireless signal responsive to receiving the at least the second predetermined electrical transmit signal, respectively;

a third power supply adapted to provide a third supply of electrical power;

30 a third power switch adapted to electrically couple the second supply of electrical power to at least one of the at least the second alert switch, the second transmitter and the second transmitting element responsive to the third power switch being actuated; and

a second waterproof transmitter housing adapted to carry at least one of the at least the second alert switch, the second transmitter, the second transmitting element, the third power supply and the third power switch;

5 a second receiver assembly, adapted to be carried by the first diver having a second mask adapted to be worn on the first diver's head, including:

a second receiving element adapted to generate at least a second electrical receive signal responsive to receiving the at least the second predetermined wireless signal, respectively;

10 a second receiver electrically coupled to the second receiving element and adapted to generate at least a second predetermined electrical alert attention signal responsive to receiving the at least the second electrical receive signal, respectively;

AI at least a second alert device electrically coupled to the second receiver and adapted to generate at least a second predetermined alert responsive to receiving the at least the second predetermined electrical alert attention signal, wherein the at least the second alert device further comprises:

15 a second visual alert device adapted to generate a predetermined visual alert, as the at least the second predetermined alert, that the first diver can see when wearing the second mask, wherein the second visual alert device further comprises:

a second light source adapted to generate a second predetermined visible light signal, as the second predetermined visual alert; a fourth power supply adapted to provide a fourth supply of electrical power;

20 a fourth power switch adapted to electrically couple the fourth supply of electrical power to at least one of the second receiving element, the second receiver and the at least the second alert device responsive to the fourth power switch being actuated; and

25 a second waterproof receiver housing adapted to carry at least one of the second receiving element, the second receiver, the at least the second alert device, the fourth power supply and the fourth power switch;

----- wherein the second mask is adapted to carry at least the at least the second alert device of the second receiver assembly in a way that permits the at least the second predetermined alert to gain the attention of the first diver when the second mask is worn on the first diver's head; and

30 a second attachment mechanism adapted to permit the second waterproof receiver housing to be mechanically coupled to the second mask.

25. The underwater alert system according to claim 24:

wherein the first waterproof transmitter housing and the second waterproof receiver housing are integrally formed together to provide a first transceiver housing adapted to be carried by the second mask,

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wherein the first power supply and the fourth power supply are integrally formed together to provide a first transceiver power supply adapted to be carried by the first transceiver housing;

wherein the first power switch and the fourth power switch are integrally formed together to provide a first transceiver power switch adapted to be carried by the first transceiver housing;

5 wherein the second waterproof transmitter housing and the first waterproof receiver housing are integrally formed together to provide a second transceiver housing adapted to be carried by the first mask;

wherein the second power supply and the third power supply are integrally formed together to provide a second transceiver power supply adapted to be carried by the second transceiver housing; and

10 wherein the second power switch and the third power switch are integrally formed together to provide a second transceiver power switch adapted to be carried by the second transceiver housing.

AI 26. The underwater alert system according to claim 25:

wherein the first transceiver housing is integrally formed with the second mask, and

wherein the second transceiver housing is integrally formed with the first mask.

15 27. The underwater alert system according to claim 23 wherein the first attachment mechanism further comprises:

20 a first bracket adapted to be carried by the first mask and having a first mounting interface adapted to mechanically engage and disengage a first mounting interface on the first waterproof receiver housing to permit the first waterproof receiver housing to be attached to and removed from, respectively, the first bracket.

28. The underwater alert system according to claim 27 wherein the first bracket further comprises:

25 a second mounting interface having an adhesive disposed thereon to permit the second mounting interface of the first bracket to be mechanically coupled to the first mask.

29. The underwater alert system according to claim 27 wherein the first bracket is integrally formed with the first mask.

30 30. The underwater alert system according to claim 23 wherein the first light source generates the first predetermined visible light signal when the first waterproof receiver housing is mechanically coupled to the first mask, and wherein a second alert device generates a second predetermined alert when the first waterproof receiver housing is mechanically decoupled from the first mask.

31. The underwater alert system according to claim 23:

wherein the first transmitter assembly further comprises a first transmitter identity selection device adapted to provide the first transmitter with at least a first transmitter identity, and

5 wherein the first receiver assembly further comprises a first receiver identity selection device adapted to provide the first receiver with the at least the first transmitter identity to permit the first receiver to communicate with the first transmitter.

32. The underwater alert system according to claim 23 wherein at least one of the first power switch and the second power switch further comprises:

10 a water-activated switch adapted to be actuated responsive to the water-activated switch being located underwater.

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33. The underwater alert system according to claim 23 further comprising:

15 a dive computer adapted to generate dive computer data, electrically coupled to the first transmitter and adapted to be carried by the first diver,

wherein the at least the first alert switch further comprises:

an electronic switch electrically coupled to the dive computer and adapted to generate the at least the first electrical alert actuation signal responsive to the dive computer data being an undesirable, predetermined value.

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34. The underwater alert system according to claim 23 further comprising:

a dive computer adapted to generate dive computer data, electrically coupled to the first transmitter and adapted to be carried by the first diver,

25 wherein the first transmitter is adapted to transmit dive computer data, associated with the dive computer, to the first receiver.

35. An underwater alert system comprising:

a first transmitter assembly, adapted to be carried by a first diver, including:

at least a first alert switch adapted to generate at least a first electrical alert actuation signal responsive to the at least the first alert switch being actuated;

5 a first transmitter electrically coupled to the at least the first alert switch and adapted to generate at least a first predetermined electrical transmit signal responsive to receiving the at least the first electrical alert actuation signal, respectively;

10 a first transmitting element electrically coupled to the first transmitter and adapted to generate at least a first predetermined wireless signal responsive to receiving the at least the first predetermined electrical transmit signal, respectively;

a first waterproof transmitter housing adapted to carry at least one of the at least the first alert switch, the first transmitter and the first transmitting element;

A1 a first receiver assembly, adapted to be carried by a second diver, including:

15 a first receiving element adapted to generate at least a first electrical receive signal responsive to receiving the at least the first predetermined wireless signal, respectively;

a first receiver electrically coupled to the first receiving element and adapted to generate at least a first predetermined electrical alert attention signal responsive to receiving the at least the first electrical receive signal, respectively;

20 at least a first alert device electrically coupled to the first receiver and adapted to generate at least a first predetermined alert responsive to receiving the at least the first predetermined electrical alert attention signal;

a first waterproof receiver housing adapted to carry at least one of the first receiving element, the first receiver and the at least the first alert device; and

25 a first mask adapted to be worn on the second diver's head and adapted to carry at least the at least the first alert device of the first receiver assembly in a way that permits the at least the first predetermined alert to gain the attention of the second diver when the first mask is worn on the second diver's head; wherein the first waterproof receiver housing is integrally formed with the first mask.

30 36. The underwater alert system according to claim 35 wherein the at least the first alert switch further comprises:

at least a first pushbutton switch adapted to generate the at least the first electrical alert actuation signal responsive to the at least the first pushbutton switch being manually actuated by the first diver.

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37. The underwater alert system according to claim 35 wherein the at least the first alert device further comprises:

a visual alert device adapted to generate a predetermined visual alert, as the at least the first predetermined alert, that the second diver can see when wearing the first mask.

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38. The underwater alert system according to claim 37 wherein the visual alert device further comprises:
a first light source adapted to generate a predetermined visible light signal, as the predetermined visual alert.

10 39. The underwater alert system according to claim 35 wherein the at least the first alert device further comprises:

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an audible alert device adapted to generate a predetermined audible alert, as the at least the first predetermined alert, that the second diver can hear when wearing the first mask.

15 40. The underwater alert system according to claim 39 wherein the audible alert device further comprises:

an electro-acoustic transducer adapted to generate a predetermined audible acoustic signal, as the predetermined audible alert.

20 41. The underwater alert system according to claim 35 wherein the at least the first alert device further comprises:

a tactile alert device adapted to generate a predetermined tactile alert, as the at least the first predetermined alert, that the second diver can feel when wearing the first mask.

25 42. The underwater alert system according to claim 41 wherein the tactile alert device further comprises:

a vibrator adapted to generate a predetermined vibration signal, as the predetermined tactile alert.

43. The underwater alert system according to claim 35 further comprising:

a second transmitter assembly adapted to be carried by the second diver and including:

30 at least a second alert switch adapted to generate at least a second electrical alert actuation signal responsive to the at least the second alert switch being actuated;

a second transmitter electrically coupled to the at least the second alert switch and adapted to generate at least a second predetermined electrical transmit signal responsive to receiving the at least the second electrical alert actuation signal, respectively;

a second transmitting element electrically coupled to the second transmitter and adapted to generate at least a second predetermined wireless signal responsive to receiving the at least the second predetermined electrical transmit signal, respectively; and

5 a second waterproof transmitter housing adapted to carry at least one of the at least the second alert switch, the second transmitter and the second transmitting element;

a second receiver assembly, adapted to be carried by the first diver, including:

a second receiving element adapted to generate at least a second electrical receive signal responsive to receiving the at least the second predetermined wireless signal, respectively;

10 a second receiver electrically coupled to the second receiving element and adapted to generate at least a second predetermined electrical alert attention signal responsive to receiving the at least the second electrical receive signal, respectively;

AI at least a second alert device electrically coupled to the second receiver and adapted to generate at least a second predetermined alert responsive to receiving the at least the second predetermined electrical alert attention signal; and

15 a second waterproof receiver housing adapted to carry at least one of the second receiving element, the second receiver and the at least the second alert device; and

a second mask adapted to be worn on the first diver's head and adapted to carry at least the at least the second alert device of the second receiver assembly in a way that permits the at least the second predetermined alert to gain the attention of the first diver when the second mask is worn on the first diver's head, wherein the second waterproof receiver housing is integrally formed with the second mask.

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44. The underwater alert system according to claim 43:

wherein the first waterproof transmitter housing and the second waterproof receiver housing are integrally formed with the second mask to provide a first transceiver housing, and

25 wherein the second waterproof transmitter housing and the first waterproof receiver housing are integrally formed with the first mask to provide a second transceiver housing;

45. The underwater alert system according to claim 35:

30 wherein the first transmitter assembly further comprises a first transmitter identity selection device adapted to provide the first transmitter with at least a first transmitter identity, and

wherein the first receiver assembly further comprises a first receiver identity selection device adapted to provide the first receiver with the at least the first transmitter identity to permit the first receiver to communicate with the first transmitter.

46. The underwater alert system according to claim 35:

wherein the first transmitter assembly further comprises:

a first power supply adapted to provide a first supply of electrical power; and

5 a first power switch adapted to electrically couple the first supply of electrical power to at least one of the at least the first alert switch, the first transmitter and the first transmitting element responsive to the first power switch being actuated; and

wherein the first receiver assembly further comprises:

a second power supply adapted to provide a second supply of electrical power; and

10 a second power switch adapted to electrically couple the second supply of electrical power to at least one of the first receiving element, the first receiver and the at least the first alert device responsive to the second power switch being actuated.

AI 47. The underwater alert system according to claim 46 wherein at least one of the first power switch and the second power switch further comprises:

15 a water-activated switch adapted to be actuated responsive to the water-activated switch being located underwater.

48. The underwater alert system according to claim 35 further comprising:

20 a dive computer adapted to generate dive computer data, electrically coupled to the first transmitter and adapted to be carried by the first diver,

wherein the at least the first alert switch further comprises:

25 an electronic switch electrically coupled to the dive computer and adapted to generate the at least the first electrical alert actuation signal responsive to the dive computer data being an undesirable, predetermined value.

49. The underwater alert system according to claim 35 further comprising:

a dive computer adapted to generate dive computer data, electrically coupled to the first transmitter and adapted to be carried by the first diver,

30 wherein the first transmitter is adapted to transmit dive computer data, associated with the dive computer, to the first receiver.

50. In an underwater alert system including a first transmitter assembly adapted to be carried by a first diver and a first receiver assembly adapted to be carried by a second diver having a first mask adapted to be worn on the second diver's head, the first transmitter assembly comprising:

at least a first alert switch adapted to generate at least a first electrical alert actuation signal responsive to the at least the first alert switch being actuated;

a first transmitter electrically coupled to the at least the first alert switch and adapted to generate at least a first predetermined electrical transmit signal responsive to receiving the at least the first electrical alert actuation signal, respectively;

a first transmitting element electrically coupled to the first transmitter and adapted to generate at least a first predetermined wireless signal responsive to receiving the at least the first predetermined electrical transmit signal, respectively; and

A1 a first waterproof transmitter housing adapted to carry at least one of the at least the first alert switch, the first transmitter and the first transmitting element;

wherein the first receiver assembly includes:

15 a first receiving element adapted to generate at least a first electrical receive signal responsive to receiving the at least the first predetermined wireless signal, respectively;

a first receiver electrically coupled to the first receiving element and adapted to generate at least a first predetermined electrical alert attention signal responsive to receiving the at least the first electrical receive signal, respectively;

20 at least a first alert device electrically coupled to the first receiver and adapted to generate at least a first predetermined alert responsive to receiving the at least the first predetermined electrical alert attention signal; and

a first waterproof receiver housing adapted to carry at least one of the first receiving element, the first receiver and the at least the first alert device;

25 wherein the first mask is adapted to carry at least the at least the first alert device of the first receiver assembly in a way that permits the at least the first predetermined alert to gain the attention of the second diver when the first mask is worn on the second diver's head.

51. The first transmitter assembly according to claim 50 wherein the at least the first alert switch further comprises:

30 at least a first pushbutton switch adapted to generate the at least the first electrical alert actuation signal responsive to the at least the first pushbutton switch being manually actuated by the first diver.

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52. The first transmitter assembly according to claim 50:
wherein the first diver has a second mask adapted to be worn on the first diver's head, and
wherein the first waterproof transmitter housing is adapted to be carried by the second mask.

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53. The first transmitter assembly according to claim 52:
wherein the first waterproof transmitter housing is integrally formed with the second mask.

54. The underwater alert system according to claim 50:

10 wherein the first transmitter assembly further comprises a first transmitter identity selection device adapted to provide the first transmitter with at least a first transmitter identity, and

AI wherein the first receiver assembly further comprises a first receiver identity selection device adapted to provide the first receiver with the at least the first transmitter identity to permit the first receiver to communicate with the first transmitter.

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55. The underwater alert system according to claim 50:

wherein the first transmitter assembly further comprises:

a first power supply adapted to provide a first supply of electrical power; and

20 a first power switch adapted to electrically couple the first supply of electrical power to at least one of the at least the first alert switch, the first transmitter and the first transmitting element responsive to the first power switch being actuated; and

wherein the first receiver assembly further comprises:

a second power supply adapted to provide a second supply of electrical power; and

25 a second power switch adapted to electrically couple the second supply of electrical power to at least one of the first receiving element, the first receiver and the at least the first alert device responsive to the second power switch being actuated.

56. The underwater alert system according to claim 55 wherein at least one of the first power switch and the second power switch further comprises:

30 a water-activated switch adapted to be actuated responsive to the water-activated switch being located underwater.

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57. The underwater alert system according to claim 50 further comprising:
a dive computer adapted to generate dive computer data, electrically coupled to the first transmitter
and adapted to be carried by the first diver,

wherein the at least the first alert switch further comprises:

5 an electronic switch electrically coupled to the dive computer and adapted to generate the at
least the first electrical alert actuation signal responsive to the dive computer data being an undesirable,
predetermined value.

58. The underwater alert system according to claim 50 further comprising:

10 a dive computer adapted to generate dive computer data, electrically coupled to the first transmitter
and adapted to be carried by the first diver,

AI wherein the first transmitter is adapted to transmit dive computer data, associated with the dive
computer, to the first receiver.

59. In an underwater alert system including a first transmitter assembly adapted to be carried by a first diver and a first receiver assembly adapted to be carried by a second diver having a first mask adapted to be worn on the second diver's head, the first receiver assembly comprising:

5 a first receiving element adapted to generate at least a first electrical receive signal responsive to receiving at least a first predetermined wireless signal, respectively, generated by the first transmitter assembly;

a first receiver electrically coupled to the first receiving element and adapted to generate at least a first predetermined electrical alert attention signal responsive to receiving the at least the first electrical receive signal, respectively;

10 at least a first alert device electrically coupled to the first receiver and adapted to generate at least a first predetermined alert responsive to receiving the at least the first predetermined electrical alert attention signal; and

A1 a first waterproof receiver housing adapted to carry at least one of the first receiving element, the first receiver and the at least the first alert device,

15 wherein the first mask is adapted to carry at least the at least the first alert device of the first receiver assembly in a way that permits the at least the first predetermined alert to gain the attention of the second diver when the first mask is worn on the second diver's head.

60. The first receiver assembly according to claim 59 wherein the at least the first alert device further comprises:

20 a visual alert device adapted to generate a predetermined visual alert, as the at least the first predetermined alert, that the second diver can see when wearing the first mask.

61. The first receiver assembly according to claim 60 wherein the visual alert device further comprises:

25 a first light source adapted to generate a predetermined visible light signal, as the predetermined visual alert.

62. The first receiver assembly according to claim 59 wherein the at least the first alert device further comprises:

30 an audible alert device adapted to generate a predetermined audible alert, as the at least the first predetermined alert, that the second diver can hear when wearing the first mask.

63. The first receiver assembly according to claim 62 wherein the audible alert device further comprises:

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an electro-acoustic transducer adapted to generate a predetermined audible acoustic signal, as the predetermined audible alert.

64. The first receiver assembly according to claim 59 wherein the at least the first alert device further comprises:

5 a tactile alert device adapted to generate a predetermined tactile alert, as the at least the first predetermined alert, that the second diver can feel when wearing the first mask.

65. The first receiver assembly according to claim 64 wherein the tactile alert device further comprises:
a vibrator adapted to generate a predetermined vibration signal, as the predetermined tactile alert.

10 66. The first receiver assembly according to claim 59 further comprising:
a first attachment mechanism adapted to permit the first waterproof receiver housing to be mechanically coupled to the first mask.

15 67. The first receiver assembly according to claim 66 wherein the first attachment mechanism further comprises:

20 a first bracket adapted to be carried by the first mask and having a first mounting interface adapted to mechanically engage and disengage a first mounting interface on the first waterproof receiver housing to permit the first waterproof receiver housing to be attached to and removed from, respectively, the first bracket.

68. The first receiver assembly according to claim 67 wherein the first bracket further comprises:
a second mounting interface having an adhesive disposed thereon to permit the second mounting interface of the first bracket to be mechanically coupled to the first mask.

25 69. The first receiver assembly according to claim 67 wherein the first bracket is integrally formed with the first mask.

70. The first receiver assembly according to claim 66 wherein the at least the first alert device generates
30 the first predetermined alert when the first waterproof receiver housing is mechanically coupled to the first mask, and wherein the at least the first alert device generates a second predetermined alert when the first waterproof receiver housing is mechanically decoupled from the first mask.

71. The first receiver assembly according to claim 59 wherein the first waterproof receiver housing is integrally formed with the first mask.

72. The first receiver assembly according to claim 59 wherein the first receiver assembly further comprises a first receiver identity selection device adapted to provide the first receiver with the at least the first transmitter identity, associated with the first transmitter, to permit the first receiver to communicate with the first transmitter.

73. The first receiver assembly according to claim 59 further comprising:

a second power supply adapted to provide a second supply of electrical power; and

A1 a second power switch adapted to electrically couple the second supply of electrical power to at least one of the first receiving element, the first receiver and the at least the first alert device responsive to the second power switch being actuated.

74. The underwater alert system according to claim 73 wherein the second power switch further comprises:

a water-activated switch adapted to be actuated responsive to the water-activated switch being located underwater.

75. The underwater alert system according to claim 59 wherein the first predetermined electrical alert attention signal is representative of dive computer data, having an undesirable, predetermined value, associated with a dive computer, electrically coupled to the first transmitter assembly and adapted to be carried by the first diver.

76. The underwater alert system according to claim 59 wherein the first receiver is adapted to receive dive computer data associated with a dive computer, electrically coupled to the first transmitter assembly and adapted to be carried by the first diver.

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77. In an underwater alert system including a first transmitter assembly adapted to be carried by a first diver, a first receiver assembly adapted to be carried by a second diver and a mask adapted to be worn on the second diver's head, the mask comprising:

a first receiving element adapted to generate at least a first electrical receive signal responsive to receiving at least a first predetermined wireless signal, respectively, generated by the first transmitter assembly;

a first receiver electrically coupled to the first receiving element and adapted to generate at least a first predetermined electrical alert attention signal responsive to receiving the at least the first electrical receive signal, respectively;

at least a first alert device electrically coupled to the first receiver and adapted to generate at least a first predetermined alert responsive to receiving the at least the first predetermined electrical alert attention signal; and

a first waterproof receiver housing adapted to carry at least one of the first receiving element, the first receiver and the at least the first alert device,

wherein at least the at least the first alert device of the first receiver assembly is carried on the mask in a way that permits the at least the first predetermined alert to gain the attention of the second diver when the mask is worn on the second diver's head.

78. An underwater alert system comprising:

means for providing a transmitter assembly, adapted to be carried by a first diver, including:

means for generating at least a first electrical alert actuation signal;

5 means for generating at least a first predetermined electrical transmit signal responsive to receiving the at least the first electrical alert actuation signal, respectively;

means for generating at least a first predetermined wireless signal responsive to receiving the at least the first predetermined electrical transmit signal, respectively; and

10 means for carrying at least one of the means for generating the at least a first electrical alert actuation signal, the means for generating the at least the first predetermined electrical transmit signal, and the means for generating the at least the first predetermined wireless signal; and

AI means for providing a receiver assembly, adapted to be carried by a second diver having a mask adapted to be worn on the second diver's head, including:

means for generating at least a first electrical receive signal responsive to receiving the at least the first predetermined wireless signal, respectively;

15 means for generating at least a first predetermined electrical alert attention signal responsive to receiving the at least the first electrical receive signal, respectively;

means for generating at least a first predetermined alert responsive to receiving the at least the first predetermined electrical alert attention signal; and

20 means for carrying at least one of the means for generating the at least the first electrical receive signal, the means for generating the at least the first predetermined electrical alert attention signal, and the means for generating the at least the first predetermined alert;

wherein the first mask is adapted to carry at least the at least the means for generating the at least the first predetermined alert in a way that permits the at least the first predetermined alert to gain the attention of the second diver when the first mask is worn on the second diver's head.

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79. The underwater alert system according to claim 1 wherein the first transmitter assembly further comprises:

a second attachment mechanism adapted to permit the first waterproof transmitter housing to be mechanically coupled to the first diver's body or equipment at a location disposed below the first diver's head relative to the first diver being in a standing position.

80. The underwater alert system according to claim 79 wherein the second attachment mechanism further comprises at least one of:

a wristband, a strap, a cord, a band, a belt, a clip, and a clamp.

81. The underwater alert system according to claim 2 wherein the first transmitter assembly further comprises:

a light source carried by the first transmitter housing and adapted to illuminate at least a portion of the pushbutton.

82. The underwater alert system according to claim 1 wherein the first transmitter assembly further comprises:

a transmitter alert device adapted to generate at least a second predetermined alert responsive to a function of the first transmitter assembly.

83. The underwater alert system according to claim 82 wherein the function of the first transmitter assembly further comprises at least one of:

a low voltage warning, a verification of operation, a confirmation of transmitter identity selection, a confirmation of activation of the first alert switch, a confirmation of activation of the power on/off switch, and a condition of the charging circuit.

84. The underwater alert system according to claim 82 wherein the transmitter alert device further comprises at least one of:

a visual alert device adapted to generate a predetermined visual alert, as the at least the second predetermined alert, that the first diver can see when wearing the first transmitter assembly;

an audible alert device adapted to generate a predetermined audible alert, as the at least the second predetermined alert, that the first diver can hear when wearing the first transmitter assembly; and

a tactile alert device adapted to generate a predetermined tactile alert, as the at least the second predetermined alert, that the first diver can feel when wearing the first transmitter assembly.

85. The underwater alert system according to claim 1 wherein the at least the first alert switch is automatically actuated responsive to information related to at least one of the first diver's body, equipment and environment.

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86. The underwater alert system according to claim 1 wherein the at least the first alert device generates the first predetermined alert when the first waterproof receiver housing is above water, and wherein the at least the first alert device generates a second predetermined alert when the first waterproof receiver housing is underwater.

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87. The underwater alert system according to claim 23 wherein the first transmitter assembly further comprises:

a second attachment mechanism adapted to permit the first waterproof transmitter housing to be mechanically coupled to the first diver's body or equipment at a location disposed below the first diver's head relative to the first diver being in a standing position.

88. The underwater alert system according to claim 87 wherein the second attachment mechanism further comprises at least one of:

a wristband, a strap, a cord, a band, a belt, a clip, and a clamp.

89. The underwater alert system according to claim 23 wherein the first transmitter assembly further comprises:

a light source carried by the first transmitter housing and adapted to illuminate at least a portion of the pushbutton.

90. The underwater alert system according to claim 23 wherein the first transmitter assembly further comprises:

a transmitter alert device adapted to generate at least a second predetermined alert responsive to a function of the first transmitter assembly.

91. The underwater alert system according to claim 90 wherein the function of the first transmitter assembly further comprises at least one of:

a low voltage warning, a verification of operation, a confirmation of transmitter identity selection, a confirmation of activation of the first alert switch, a confirmation of activation of the power on/off switch, and a condition of the charging circuit.

92. The underwater alert system according to claim 90 wherein the transmitter alert device further comprises at least one of:

a visual alert device adapted to generate a predetermined visual alert, as the at least the second predetermined alert, that the first diver can see when wearing the first transmitter assembly;

an audible alert device adapted to generate a predetermined audible alert, as the at least the second predetermined alert, that the first diver can hear when wearing the first transmitter assembly; and

a tactile alert device adapted to generate a predetermined tactile alert, as the at least the second predetermined alert, that the first diver can feel when wearing the first transmitter assembly.

93. The underwater alert system according to claim 23 wherein the at least the first alert switch is automatically actuated responsive to information related to at least one of the first diver's body, equipment and environment.

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94. The underwater alert system according to claim 23 wherein the at least the first alert device generates the first predetermined alert when the first waterproof receiver housing is above water, and wherein the at least the first alert device generates a second predetermined alert when the first waterproof receiver housing is underwater.

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95. The underwater alert system according to claim 50 wherein the first transmitter assembly further comprises:

a second attachment mechanism adapted to permit the first waterproof transmitter housing to be mechanically coupled to the first diver's body or equipment at a location disposed below the first diver's head relative to the first diver being in a standing position.

96. The underwater alert system according to claim 95 wherein the second attachment mechanism further comprises at least one of:

a wristband, a strap, a cord, a band, a belt, a clip, and a clamp.

97. The underwater alert system according to claim 50 wherein the first transmitter assembly further comprises:

A1 a light source carried by the first transmitter housing and adapted to illuminate at least a portion of the pushbutton.

98. The underwater alert system according to claim 50 wherein the first transmitter assembly further comprises:

a transmitter alert device adapted to generate at least a second predetermined alert responsive to a function of the first transmitter assembly.

99. The underwater alert system according to claim 98 wherein the function of the first transmitter assembly further comprises at least one of:

25 a low voltage warning, a verification of operation, a confirmation of transmitter identity selection, a confirmation of activation of the first alert switch, a confirmation of activation of the power on/off switch, and a condition of the charging circuit.

100. The underwater alert system according to claim 98 wherein the transmitter alert device further comprises at least one of:

30 a visual alert device adapted to generate a predetermined visual alert, as the at least the second predetermined alert, that the first diver can see when wearing the first transmitter assembly;

an audible alert device adapted to generate a predetermined audible alert, as the at least the second predetermined alert, that the first diver can hear when wearing the first transmitter assembly; and

a tactile alert device adapted to generate a predetermined tactile alert, as the at least the second predetermined alert, that the first diver can feel when wearing the first transmitter assembly.

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101. The underwater alert system according to claim 50 wherein the at least the first alert switch is automatically actuated responsive to information related to at least one of the first diver's body, equipment and environment.

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102. The underwater alert system according to claim 59 wherein the at least the first alert device generates the first predetermined alert when the first waterproof receiver housing is above water, and wherein the at least the first alert device generates a second predetermined alert when the first waterproof receiver housing is underwater.

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103. An underwater alert system comprising:

a first transmitter assembly, adapted to be carried by a first diver, including:

at least a first alert switch adapted to generate at least a first electrical alert actuation signal responsive to the at least the first alert switch being actuated, wherein the at least the first alert switch further comprises:

at least a first pushbutton switch adapted to generate the at least the first electrical alert actuation signal responsive to the at least the first pushbutton switch being manually actuated by the first diver;

a first transmitter electrically coupled to the at least the first alert switch and adapted to generate at least a first predetermined electrical transmit signal responsive to receiving the at least the first electrical alert actuation signal, respectively;

A1 a first transmitting element electrically coupled to the first transmitter and adapted to generate at least a first predetermined wireless signal responsive to receiving the at least the first predetermined electrical transmit signal, respectively;

15 a first waterproof transmitter housing adapted to carry at least one of the at least the first alert switch, the first transmitter and the first transmitting element; and

a second attachment mechanism adapted to permit the first waterproof transmitter housing to be mechanically coupled to the first diver's body or equipment at a location disposed below the first diver's head relative to the first diver being in a standing position, wherein the second attachment mechanism further comprises at least one of:

a wristband, a strap, a cord, a band, a belt, a clip, and a clamp; and

a first receiver assembly, adapted to be carried by a second diver having a first mask adapted to be worn on the second diver's head, including:

25 a first receiving element adapted to generate at least a first electrical receive signal responsive to receiving the at least the first predetermined wireless signal, respectively;

a first receiver electrically coupled to the first receiving element and adapted to generate at least a first predetermined electrical alert attention signal responsive to receiving the at least the first electrical receive signal, respectively;

30 at least a first alert device electrically coupled to the first receiver and adapted to generate at least a first predetermined alert responsive to receiving the at least the first predetermined electrical alert attention signal; and

a first waterproof receiver housing adapted to carry at least one of the first receiving element, the first receiver and the at least the first alert device;

wherein the first mask is adapted to carry at least the at least the first alert device of the first receiver assembly in a way that permits the at least the first predetermined alert to gain the attention of the second diver when the first mask is worn on the second diver's head.

- 5 104. The underwater alert system according to claim 103 wherein the at least the first alert device further comprises:

a visual alert device adapted to generate a predetermined visual alert, as the at least the first predetermined alert, that the second diver can see when wearing the first mask.

- 10 105. The underwater alert system according to claim 104 wherein the visual alert device further comprises:

AI a first light source adapted to generate a predetermined visible light signal, as the predetermined visual alert.

- 15 106. The underwater alert system according to claim 103 wherein the at least the first alert device further comprises:

an audible alert device adapted to generate a predetermined audible alert, as the at least the first predetermined alert, that the second diver can hear when wearing the first mask.

- 20 107. The underwater alert system according to claim 106 wherein the audible alert device further comprises:

an electro-acoustic transducer adapted to generate a predetermined audible acoustic signal, as the predetermined audible alert.

- 25 108. The underwater alert system according to claim 103 wherein the at least the first alert device further comprises:

a tactile alert device adapted to generate a predetermined tactile alert, as the at least the first predetermined alert, that the second diver can feel when wearing the first mask.

- 30 109. The underwater alert system according to claim 108 wherein the tactile alert device further comprises:

a vibrator adapted to generate a predetermined vibration signal, as the predetermined tactile alert.

110. The underwater alert system according to claim 103 further comprising:

a second transmitter assembly adapted to be carried by the second diver and including:

at least a second alert switch adapted to generate at least a second electrical alert actuation signal responsive to the at least the second alert switch being actuated, wherein the at least the second alert switch further comprises:

5 at least a second pushbutton switch adapted to generate the at least the second electrical alert actuation signal responsive to the at least the second pushbutton switch being manually actuated by the second diver;

10 a second transmitter electrically coupled to the at least the second alert switch and adapted to generate at least a second predetermined electrical transmit signal responsive to receiving the at least the second electrical alert actuation signal, respectively;

AI a second transmitting element electrically coupled to the second transmitter and adapted to generate at least a second predetermined wireless signal responsive to receiving the at least the second predetermined electrical transmit signal, respectively;

15 a second waterproof transmitter housing adapted to carry at least one of the at least the second alert switch, the second transmitter and the second transmitting element; and

a second attachment mechanism adapted to permit the second waterproof transmitter housing to be mechanically coupled to the second diver's body or equipment at a location disposed below the second diver's head relative to the second diver being in a standing position, wherein the second attachment mechanism further comprises at least one of:

20 a wristband, a strap, a cord, a band, a belt, a clip, and a clamp; and

a second receiver assembly, adapted to be carried by the first diver having a second mask adapted to be worn on the first diver's head, including:

a second receiving element adapted to generate at least a second electrical receive signal responsive to receiving the at least the second predetermined wireless signal, respectively;

25 a second receiver electrically coupled to the second receiving element and adapted to generate at least a second predetermined electrical alert attention signal responsive to receiving the at least the second electrical receive signal, respectively;

30 at least a second alert device electrically coupled to the second receiver and adapted to generate at least a second predetermined alert responsive to receiving the at least the second predetermined electrical alert attention signal; and

a second waterproof receiver housing adapted to carry at least one of the second receiving element, the second receiver and the at least the second alert device; and

wherein the second mask is adapted to carry at least the at least the second alert device of the second receiver assembly in a way that permits the at least the second predetermined alert to gain the attention of the first diver when the second mask is worn on the first diver's head.

5 111. The underwater alert system according to claim 110:

wherein the first waterproof transmitter housing and the second waterproof receiver housing are integrally formed together to provide a first transceiver housing adapted to be carried by the second mask, and

10 wherein the second waterproof transmitter housing and the first waterproof receiver housing are integrally formed together to provide a second transceiver housing adapted to be carried by the first mask.

112. The underwater alert system according to claim 111:

wherein the first transceiver housing is integrally formed with the second mask, and

wherein the second transceiver housing is integrally formed with the first mask.

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113. The underwater alert system according to claim 103 further comprising:

a first attachment mechanism adapted to permit the first waterproof receiver housing to be mechanically coupled to the first mask.

20 114. The underwater alert system according to claim 113 wherein the first attachment mechanism further comprises:

a first bracket adapted to be carried by the first mask and having a first mounting interface adapted to mechanically engage and disengage a first mounting interface on the first waterproof receiver housing to permit the first waterproof receiver housing to be attached to and removed from, respectively, the first
25 bracket.

115. The underwater alert system according to claim 114 wherein the first bracket further comprises:

a second mounting interface having an adhesive disposed thereon to permit the second mounting interface of the first bracket to be mechanically coupled to the first mask.

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116. The underwater alert system according to claim 114 wherein the first bracket is integrally formed with the first mask.

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117. The underwater alert system according to claim 113 wherein the at least the first alert device generates the first predetermined alert when the first waterproof receiver housing is mechanically coupled to the first mask, and wherein the at least the first alert device generates a second predetermined alert when the first waterproof receiver housing is mechanically decoupled from the first mask.

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118. The underwater alert system according to claim 103 wherein the first waterproof receiver housing is integrally formed with the first mask.

119. The underwater alert system according to claim 103:

10 wherein the first transmitter assembly further comprises a first transmitter identity selection device adapted to provide the first transmitter with at least a first transmitter identity, and

AI wherein the first receiver assembly further comprises a first receiver identity selection device adapted to provide the first receiver with the at least the first transmitter identity to permit the first receiver to communicate with the first transmitter.

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120. The underwater alert system according to claim 103:

wherein the first transmitter assembly further comprises:

a first power supply adapted to provide a first supply of electrical power; and

20 a first power switch adapted to electrically couple the first supply of electrical power to at least one of the at least the first alert switch, the first transmitter and the first transmitting element responsive to the first power switch being actuated; and

wherein the first receiver assembly further comprises:

a second power supply adapted to provide a second supply of electrical power; and

25 a second power switch adapted to electrically couple the second supply of electrical power to at least one of the first receiving element, the first receiver and the at least the first alert device responsive to the second power switch being actuated.

121. The underwater alert system according to claim 120 wherein at least one of the first power switch and the second power switch further comprises:

30 a water-activated switch adapted to be actuated responsive to the water-activated switch being located underwater.

122. The underwater alert system according to claim 103 further comprising:

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a dive computer adapted to generate dive computer data, electrically coupled to the first transmitter and adapted to be carried by the first diver,

wherein the at least the first alert switch further comprises:

an electronic switch electrically coupled to the dive computer and adapted to generate the at least the first electrical alert actuation signal responsive to the dive computer data being an undesirable, predetermined value.

123. The underwater alert system according to claim 103 further comprising:

a dive computer adapted to generate dive computer data, electrically coupled to the first transmitter and adapted to be carried by the first diver,

wherein the first transmitter is adapted to transmit dive computer data, associated with the dive computer, to the first receiver.

124. The underwater alert system according to claim 103 wherein the first transmitter assembly further comprises:

a light source carried by the first transmitter housing and adapted to illuminate at least a portion of the pushbutton.

125. The underwater alert system according to claim 103 wherein the first transmitter assembly further comprises:

a transmitter alert device adapted to generate at least a second predetermined alert responsive to a function of the first transmitter assembly.

126. The underwater alert system according to claim 125 wherein the function of the first transmitter assembly further comprises at least one of:

a low voltage warning, a verification of operation, a confirmation of transmitter identity selection, a confirmation of activation of the first alert switch, a confirmation of activation of the power on/off switch, and a condition of the charging circuit.

127. The underwater alert system according to claim 125 wherein the transmitter alert device further comprises at least one of:

a visual alert device adapted to generate a predetermined visual alert, as the at least the second predetermined alert, that the first diver can see when wearing the first transmitter assembly;

an audible alert device adapted to generate a predetermined audible alert, as the at least the second predetermined alert, that the first diver can hear when wearing the first transmitter assembly; and

a tactile alert device adapted to generate a predetermined tactile alert, as the at least the second predetermined alert, that the first diver can feel when wearing the first transmitter assembly.

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128. The underwater alert system according to claim 103 wherein the at least the first alert switch is automatically actuated responsive to information related to at least one of the first diver's body, equipment and environment.

- 10 129. The underwater alert system according to claim 103 wherein the at least the first alert device generates the first predetermined alert when the first waterproof receiver housing is above water, and wherein the at least the first alert device generates a second predetermined alert when the first waterproof receiver housing is underwater.

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130. An underwater alert system comprising:

a transmitter assembly, adapted to be carried by a first person while the first person is underwater, for transmitting a predetermined wireless signal; and

a receiver assembly, adapted to be carried by a second person while the second person is underwater,

5 including:

an alert device, adapted to be carried by a mask to be worn on the second diver's head, for generating an alert that gains the attention of the second diver when the mask is worn on the second diver's head responsive to receiving the predetermined wireless signal.

10 131. The underwater alert system according to claim 130 further comprising:

AI an attachment mechanism adapted to permit the transmitter assembly to be mechanically coupled to the first person's body or equipment at a location disposed below the first person's head relative to the first person being in a standing position.

15 132. The underwater alert system according to claim 131 wherein the attachment mechanism further comprises at least one of:

a wristband, a strap, a cord, a band, a belt, a clip, and a clamp.

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133. An underwater alert system comprising:

a first transmitter assembly, adapted to be carried by a first diver, including:

a first dive computer adapted to generate first dive computer data responsive to receiving information related to at least one of the first diver's body, equipment, and environment;

5 a first transmitter electrically coupled to the first dive computer and adapted to generate at least a first electrical transmit signal responsive to receiving the first dive computer data, respectively;

a first transmitting element electrically coupled to the first transmitter and adapted to generate at least a first wireless signal responsive to receiving the at least the first electrical transmit signal, respectively; and

10 a first waterproof transmitter housing adapted to carry at least one of the first dive computer, the first transmitter and the first transmitting element; and

A1 a first receiver assembly, adapted to be carried by a second diver, including:

a first receiving element adapted to generate at least a first electrical receive signal responsive to receiving the at least the first wireless signal, respectively;

15 a first receiver electrically coupled to the first receiving element and adapted to generate at least a first electrical alert attention signal responsive to receiving the at least the first electrical receive signal, respectively;

at least a first alert device electrically coupled to the first receiver and adapted to generate at least a first alert responsive to receiving the at least the first electrical alert attention signal; and

20 a first waterproof receiver housing adapted to carry at least one of the first receiving element, the first receiver and the at least the first alert device.

134. The underwater alert system according to claim 133 wherein the at least the first alert device further comprises:

25 a visual alert device adapted to generate a visual alert, as the at least the first alert, that the second diver can see.

135. The underwater alert system according to claim 134 wherein the visual alert device further comprises:

30 a first light source adapted to generate a visible light signal, as the visual alert.

136. The underwater alert system according to claim 134 wherein the visual alert device further comprises:

a first display adapted to display the first dive computer data, as the visual alert.

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137. The underwater alert system according to claim 133 wherein the at least the first alert device further comprises:

an audible alert device adapted to generate an audible alert, as the at least the first alert, that the second diver can hear.

138. The underwater alert system according to claim 137 wherein the audible alert device further comprises:

an electro-acoustic transducer adapted to generate an audible acoustic signal, as the audible alert.

139. The underwater alert system according to claim 133 wherein the at least the first alert device further comprises:

a tactile alert device adapted to generate a tactile alert, as the at least the first alert, that the second diver can feel.

140. The underwater alert system according to claim 139 wherein the tactile alert device further comprises:

a vibrator adapted to generate a vibration signal, as the tactile alert.

141. The underwater alert system according to claim 133 further comprising:

a second transmitter assembly, adapted to be carried by the second diver, including:

a second dive computer adapted to generate second dive computer data responsive to receiving information related to at least one of the second diver's body, equipment, and environment;

a second transmitter electrically coupled to the second dive computer and adapted to generate at least a second electrical transmit signal responsive to receiving the second dive computer data, respectively;

a second transmitting element electrically coupled to the second transmitter and adapted to generate at least a second wireless signal responsive to receiving the at least the second electrical transmit signal, respectively; and

a second waterproof transmitter housing adapted to carry at least one of the second dive computer, the second transmitter, and the second transmitting element; and

a second receiver assembly, adapted to be carried by the first diver, including:

a second receiving element adapted to generate at least a second electrical receive signal responsive to receiving the at least the second wireless signal, respectively;

a second receiver electrically coupled to the second receiving element and adapted to generate at least a second electrical alert attention signal responsive to receiving the at least the second electrical receive signal, respectively;

5 at least a second alert device electrically coupled to the second receiver and adapted to generate at least a second alert responsive to receiving the at least the second electrical alert attention signal; and

a second waterproof receiver housing adapted to carry at least one of the second receiving element, the second receiver and the at least the second alert device.

10 142. The underwater alert system according to claim 141 wherein the at least the second alert device further comprises:

a second display adapted to display the second dive computer data.

AI 143. The underwater alert system according to claim 142 wherein at least one of the first display and the second display displays at least one of:

15 all of each of the first computer data and the second computer data at the same time;

a portion of each of the first computer data and the second computer data at the same time;

at least a portion of the first computer data at a first time and at least a portion of the second computer data at a second time, different from the first time.

20 144. The underwater alert system according to claim 141:

wherein the first waterproof transmitter housing and the second waterproof receiver housing are integrally formed together to provide a first transceiver housing adapted to be carried by the first diver, and

wherein the second waterproof transmitter housing and the first waterproof receiver housing are integrally formed together to provide a second transceiver housing adapted to be carried by the second diver.

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145. The underwater alert system according to claim 144:

wherein the first transceiver housing is integrally formed with a second mask adapted to be worn by the first diver, and

30 wherein the second transceiver housing is integrally formed with a first mask adapted to be worn by the second diver.

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146. The underwater alert system according to claim 133 further comprising:

a first attachment mechanism adapted to permit the first waterproof receiver housing to be mechanically coupled to a first mask adapted to be worn by the second diver.

5 147. The underwater alert system according to claim 146 wherein the first attachment mechanism further comprises:

a first bracket adapted to be carried by the first mask and having a first mounting interface adapted to mechanically engage and disengage a first mounting interface on the first waterproof receiver housing to permit the first waterproof receiver housing to be attached to and removed from, respectively, the first
10 bracket.

AI 148. The underwater alert system according to claim 147 wherein the first bracket further comprises:

a second mounting interface having an adhesive disposed thereon to permit the second mounting interface of the first bracket to be mechanically coupled to the first mask.

15 149. The underwater alert system according to claim 147 wherein the first bracket is integrally formed with the first mask.

20 150. The underwater alert system according to claim 133 wherein the first waterproof receiver housing is integrally formed with the first mask.

151. The underwater alert system according to claim 133:

wherein the first transmitter assembly further comprises a first transmitter identity selection device adapted to provide the first transmitter with at least a first transmitter identity, and

25 wherein the first receiver assembly further comprises a first receiver identity selection device adapted to provide the first receiver with the at least the first transmitter identity to permit the first receiver to communicate with the first transmitter.

152. The underwater alert system according to claim 133:

30 wherein the first transmitter assembly further comprises:

a first power supply adapted to provide a first supply of electrical power; and

a first power switch adapted to electrically couple the first supply of electrical power to at least one of the first dive computer, the first transmitter and the first transmitting element responsive to the first power switch being actuated; and

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wherein the first receiver assembly further comprises:

a second power supply adapted to provide a second supply of electrical power; and

a second power switch adapted to electrically couple the second supply of electrical power to at least one of the first receiving element, the first receiver and the at least the first alert device responsive to the second power switch being actuated.

153. The underwater alert system according to claim 152 wherein at least one of the first power switch and the second power switch further comprises:

a water-activated switch adapted to be actuated responsive to the water-activated switch being located underwater.

154. The underwater alert system according to claim 133 wherein the first transmitter generates the at least a first electrical transmit signal responsive to receiving the first dive computer data, respectively, having an undesirable, predetermined value.

155. The underwater alert system according to claim 133 wherein the first transmitter generates the at least a first electrical transmit signal, representing the first dive computer data, respectively, responsive to receiving the first dive computer data, respectively.

156. The underwater alert system according to claim 133 wherein the first transmitter and the first receiver communicate over a first wireless communication link having a first range between the first diver and the second diver.

157. The underwater alert system according to claim 133 further comprising:

a third transmitter assembly, adapted to be carried by the first diver, including:

a third transmitter adapted to generate at least a third electrical transmit signal representative of the information related to at least one of the first diver's body, equipment, and environment; and

a third transmitting element electrically coupled to the third transmitter and adapted to generate at least a third wireless signal responsive to receiving the at least the third electrical transmit signal, respectively;

a third waterproof transmitter housing adapted to carry at least one of the third transmitter and the third transmitting element; and

a third receiver assembly, adapted to be carried by the first diver, including:

a third receiving element adapted to generate at least a third electrical receive signal responsive to receiving the at least the third wireless signal, respectively;

5 a third receiver electrically coupled to the third receiving element and adapted to generate at least a third electrical alert attention signal responsive to receiving the at least the third electrical receive signal, respectively, wherein the third receiver is electrically coupled to the first dive computer and adapted to provide the first dive computer with the third electrical alert attention signal; and

a third waterproof receiver housing adapted to carry at least one of the third receiving element and the third receiver,

10 wherein the third transmitter and the third receiver communicate over a second wireless communication link having a second range between the third transmitter and the third receiver.

AI 158. The underwater alert system according to claim 133 wherein the first dive computer data further comprises at least one of:

15 dive table time limits, dive time duration, dive depth, air supply level, direction, distance, water temperature, ascent rate, heart rate, and breathing rate.

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159. An underwater alert system comprising:

a first transmitter assembly, adapted to be carried by a first diver, including:

a first dive computer adapted to generate first dive computer data responsive to receiving information related to at least one of the first diver's body, equipment, and environment;

5 a first transmitter electrically coupled to the first dive computer and adapted to generate at least a first electrical transmit signal, representing the dive computer data, responsive to receiving the first dive computer data, respectively;

a first transmitting element electrically coupled to the first transmitter and adapted to generate at least a first wireless signal responsive to receiving the at least the first electrical transmit signal, respectively;

10 and

a first waterproof transmitter housing adapted to carry at least one of the first dive computer, the first transmitter and the first transmitting element; and

A1 a first receiver assembly, adapted to be carried by a second diver, including:

15 a first receiving element adapted to generate at least a first electrical receive signal responsive to receiving the at least the first wireless signal, respectively;

a first receiver electrically coupled to the first receiving element and adapted to generate at least a first electrical alert attention signal responsive to receiving the at least the first electrical receive signal, respectively;

20 at least a first alert device electrically coupled to the first receiver and adapted to generate at least a first alert responsive to receiving the at least the first electrical alert attention signal, wherein the at least the first alert device further comprises:

a visual alert device adapted to generate a visual alert, as the at least the first alert, that the second diver can see, wherein the visual alert device further comprises:

a first display adapted to display the first dive computer data, as the visual alert; and

25 a first waterproof receiver housing adapted to carry at least one of the first receiving element, the first receiver and the at least the first alert device,

wherein the first transmitter and the first receiver communicate over a first wireless communication link having a first range between the first diver and the second diver.

30 160. The underwater alert system according to claim 159 further comprising:

a second transmitter assembly, adapted to be carried by the second diver, including:

a second dive computer adapted to generate second dive computer data responsive to receiving information related to at least one of the second diver's body, equipment, and environment;

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a second transmitter electrically coupled to the second dive computer and adapted to generate at least a second electrical transmit signal responsive to receiving the second dive computer data, respectively;

a second transmitting element electrically coupled to the second transmitter and adapted to generate at least a second wireless signal responsive to receiving the at least the second electrical transmit signal, respectively; and

a second waterproof transmitter housing adapted to carry at least one of the second dive computer, the second transmitter, and the second transmitting element; and

a second receiver assembly, adapted to be carried by the first diver, including:

a second receiving element adapted to generate at least a second electrical receive signal responsive to receiving the at least the second wireless signal, respectively;

A1 a second receiver electrically coupled to the second receiving element and adapted to generate at least a second electrical alert attention signal responsive to receiving the at least the second electrical receive signal, respectively;

15 at least a second alert device electrically coupled to the second receiver and adapted to generate at least a second alert responsive to receiving the at least the second electrical alert attention signal, wherein the at least the second alert device further comprises:

a second display adapted to display the second dive computer data; and

a second waterproof receiver housing adapted to carry at least one of the second receiving element, the second receiver and the at least the second alert device.

20 161. The underwater alert system according to claim 160 wherein at least one of the first display and the second display displays at least one of:

all of each of the first computer data and the second computer data at the same time;

a portion of each of the first computer data and the second computer data at the same time;

25 at least a portion of the first computer data at a first time and at least a portion of the second computer data at a second time, different from the first time.

162. The underwater alert system according to claim 160:

30 wherein the first waterproof transmitter housing and the second waterproof receiver housing are integrally formed together to provide a first transceiver housing adapted to be carried by the first diver, and

wherein the second waterproof transmitter housing and the first waterproof receiver housing are integrally formed together to provide a second transceiver housing adapted to be carried by the second diver.

163. The underwater alert system according to claim 159:

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wherein the first transmitter assembly further comprises a first transmitter identity selection device adapted to provide the first transmitter with at least a first transmitter identity, and

wherein the first receiver assembly further comprises a first receiver identity selection device adapted to provide the first receiver with the at least the first transmitter identity to permit the first receiver
5 to communicate with the first transmitter.

164
160.

The underwater alert system according to claim 159 further comprising:

a third transmitter assembly, adapted to be carried by the first diver, including:

10 a third transmitter adapted to generate at least a third electrical transmit signal representative of the information related to at least one of the first diver's body, equipment, and environment; and

A1 a third transmitting element electrically coupled to the third transmitter and adapted to generate at least a third wireless signal responsive to receiving the at least the third electrical transmit signal, respectively;

15 a third waterproof transmitter housing adapted to carry at least one of the third transmitter and the third transmitting element; and

a third receiver assembly, adapted to be carried by the first diver, including:

a third receiving element adapted to generate at least a third electrical receive signal responsive to receiving the at least the third wireless signal, respectively;

20 a third receiver electrically coupled to the third receiving element and adapted to generate at least a third electrical alert attention signal responsive to receiving the at least the third electrical receive signal, respectively, wherein the third receiver is electrically coupled to the first dive computer and adapted to provide the first dive computer with the third electrical alert attention signal; and

a third waterproof receiver housing adapted to carry at least one of the third receiving element and the third receiver,

25 wherein the third transmitter and the third receiver communicate over a second wireless communication link having a second range between the third transmitter and the third receiver.

165. The underwater alert system according to claim 159 wherein the first dive computer data further comprises at least one of:

30 dive table time limits, dive time duration, dive depth, air supply level, direction, distance, water temperature, ascent rate, heart rate, and breathing rate.

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166. An underwater alert system comprising:

a first transmitter assembly, adapted to be carried by a first diver, including:

a first dive computer adapted to generate first dive computer data responsive to receiving information related to at least one of the first diver's body, equipment, and environment;

5 a first transmitter electrically coupled to the first dive computer and adapted to generate at least a first predetermined electrical transmit signal responsive to receiving the first dive computer data, respectively, having an undesirable, predetermined value;

10 a first transmitting element electrically coupled to the first transmitter and adapted to generate at least a first predetermined wireless signal responsive to receiving the at least the first predetermined electrical transmit signal, respectively; and

A1 a first waterproof transmitter housing adapted to carry at least one of the first dive computer, the first transmitter and the first transmitting element; and

a first receiver assembly, adapted to be carried by a second diver, including:

15 a first receiving element adapted to generate at least a first electrical receive signal responsive to receiving the at least the first predetermined wireless signal, respectively;

a first receiver electrically coupled to the first receiving element and adapted to generate at least a first predetermined electrical alert attention signal responsive to receiving the at least the first predetermined electrical receive signal, respectively;

20 at least a first alert device electrically coupled to the first receiver and adapted to generate at least a first predetermined alert responsive to receiving the at least the first predetermined electrical alert attention signal; and

a first waterproof receiver housing adapted to carry at least one of the first receiving element, the first receiver and the at least the first alert device,

25 wherein the first transmitter and the first receiver communicate over a first wireless communication link having a first range between the first diver and the second diver.

167. The underwater alert system according to claim 166 wherein the at least the first alert device further comprises:

30 a visual alert device adapted to generate a predetermined visual alert, as the at least the first predetermined alert, that the second diver can see.

168. The underwater alert system according to claim 167 wherein the visual alert device further comprises:

a first light source adapted to generate a predetermined visible light signal, as the predetermined visual alert.

169. The underwater alert system according to claim 166 wherein the at least the first alert device further
5 comprises:

an audible alert device adapted to generate a predetermined audible alert, as the at least the first predetermined alert, that the second diver can hear.

170. The underwater alert system according to claim 169 wherein the audible alert device further
10 comprises:

an electro-acoustic transducer adapted to generate a predetermined audible acoustic signal, as the predetermined audible alert.

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171. The underwater alert system according to claim 166 wherein the at least the first alert device further
15 comprises:

a tactile alert device adapted to generate a predetermined tactile alert, as the at least the first predetermined alert, that the second diver can feel.

172. The underwater alert system according to claim 171 wherein the tactile alert device further
20 comprises:

a vibrator adapted to generate a predetermined vibration signal, as the predetermined tactile alert.

173. The underwater alert system according to claim 166 further comprising:

a second transmitter assembly, adapted to be carried by the second diver, including:

25 a second dive computer adapted to generate second dive computer data responsive to receiving information related to at least one of the second diver's body, equipment, and environment;

a second transmitter electrically coupled to the second dive computer and adapted to generate at least a second predetermined electrical transmit signal responsive to receiving the second dive computer data, respectively;

30 a second transmitting element electrically coupled to the second transmitter and adapted to generate at least a second predetermined wireless signal responsive to receiving the at least the second predetermined electrical transmit signal, respectively; and

a second waterproof transmitter housing adapted to carry at least one of the second dive computer, the second transmitter, and the second transmitting element; and

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a second receiver assembly, adapted to be carried by the first diver, including:

a second receiving element adapted to generate at least a second electrical receive signal responsive to receiving the at least the second predetermined wireless signal, respectively;

5 a second receiver electrically coupled to the second receiving element and adapted to generate at least a second predetermined electrical alert attention signal responsive to receiving the at least the second predetermined electrical receive signal, respectively;

at least a second alert device electrically coupled to the second receiver and adapted to generate at least a second predetermined alert responsive to receiving the at least the second predetermined electrical alert attention signal; and

10 a second waterproof receiver housing adapted to carry at least one of the second receiving element, the second receiver and the at least the second alert device.

AI 174. The underwater alert system according to claim 173:

15 wherein the first waterproof transmitter housing and the second waterproof receiver housing are integrally formed together to provide a first transceiver housing adapted to be carried by the first diver, and

wherein the second waterproof transmitter housing and the first waterproof receiver housing are integrally formed together to provide a second transceiver housing adapted to be carried by the second diver.

175. The underwater alert system according to claim 174:

20 wherein the first transceiver housing is integrally formed with a second mask adapted to be worn by the first diver, and

wherein the second transceiver housing is integrally formed with a first mask adapted to be worn by the second diver.

25 176. The underwater alert system according to claim 166:

wherein the first transmitter assembly further comprises a first transmitter identity selection device adapted to provide the first transmitter with at least a first transmitter identity, and

30 wherein the first receiver assembly further comprises a first receiver identity selection device adapted to provide the first receiver with the at least the first transmitter identity to permit the first receiver to communicate with the first transmitter.

177. The underwater alert system according to claim 166 further comprising:

a third transmitter assembly, adapted to be carried by the first diver, including:

a third transmitter adapted to generate at least a third electrical transmit signal representative of the information related to at least one of the first diver's body, equipment, and environment; and

a third transmitting element electrically coupled to the third transmitter and adapted to generate at least a third wireless signal responsive to receiving the at least the third electrical transmit signal, respectively;

a third waterproof transmitter housing adapted to carry at least one of the third transmitter and the third transmitting element; and

a third receiver assembly, adapted to be carried by the first diver, including:

a third receiving element adapted to generate at least a third electrical receive signal responsive to receiving the at least the third wireless signal, respectively;

A1 a third receiver electrically coupled to the third receiving element and adapted to generate at least a third electrical alert attention signal responsive to receiving the at least the third electrical receive signal, respectively, wherein the third receiver is electrically coupled to the first dive computer and adapted to provide the first dive computer with the third electrical alert attention signal; and

15 a third waterproof receiver housing adapted to carry at least one of the third receiving element and the third receiver,

wherein the third transmitter and the third receiver communicate over a second wireless communication link having a second range between the third transmitter and the third receiver.

20 178. The underwater alert system according to claim 166 wherein the first dive computer data further comprises at least one of:

dive table time limits, dive time duration, dive depth, air supply level, direction, distance, water temperature, ascent rate, heart rate, and breathing rate.

179. In an underwater alert system including a first transmitter assembly adapted to be carried by a first diver and a first receiver assembly adapted to be carried by a second diver, the first transmitter assembly comprising:

5 a first dive computer adapted to generate first dive computer data responsive to receiving information related to at least one of the first diver's body, equipment, and environment;

a first transmitter electrically coupled to the first dive computer and adapted to generate at least a first electrical transmit signal responsive to receiving the first dive computer data, respectively;

a first transmitting element electrically coupled to the first transmitter and adapted to generate at least a first wireless signal responsive to receiving the at least the first electrical transmit signal, respectively;

10 and

A 1 a first waterproof transmitter housing adapted to carry at least one of the first dive computer, the first transmitter and the first transmitting element,

wherein the first receiver assembly includes:

15 a first receiving element adapted to generate at least a first electrical receive signal responsive to receiving the at least the first wireless signal, respectively;

a first receiver electrically coupled to the first receiving element and adapted to generate at least a first electrical alert attention signal responsive to receiving the at least the first electrical receive signal, respectively;

20 at least a first alert device electrically coupled to the first receiver and adapted to generate at least a first alert responsive to receiving the at least the first electrical alert attention signal; and

a first waterproof receiver housing adapted to carry at least one of the first receiving element, the first receiver, and the at least the first alert device.

180. In an underwater alert system including a first transmitter assembly adapted to be carried by a first diver and a first receiver assembly adapted to be carried by a second diver, the first receiver assembly comprising:

5 a first receiving element adapted to generate at least a first electrical receive signal responsive to receiving at least a first wireless signal, respectively, representing information related to at least one of the first diver's body, equipment, and environment, generated by the transmitter assembly;

AI a first receiver electrically coupled to the first receiving element and adapted to generate at least a first electrical alert attention signal responsive to receiving the at least the first electrical receive signal, respectively;

10 at least a first alert device electrically coupled to the first receiver and adapted to generate at least a first alert responsive to receiving the at least the first electrical alert attention signal; and

a first waterproof receiver housing adapted to carry at least one of the first receiving element, the first receiver and the at least the first alert device.

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181. An underwater alert system comprising:

means for providing a first transmitter assembly, adapted to be carried by a first diver, including:

means for generating first dive computer data responsive to receiving information related to at least one of the first diver's body, equipment, and environment;

5 means for generating at least a first electrical transmit signal responsive to receiving the first dive computer data, respectively;

means for generating at least a first wireless signal responsive to receiving the at least the first electrical transmit signal, respectively; and

10 means for carrying at least one of the first dive computer, the first transmitter and the first transmitting element; and

means for providing a first receiver assembly, adapted to be carried by a second diver, including:

AI means for generating at least a first electrical receive signal responsive to receiving the at least the first wireless signal, respectively;

15 means for generating at least a first electrical alert attention signal responsive to receiving the at least the first electrical receive signal, respectively;

means for generating at least a first alert responsive to receiving the at least the first electrical alert attention signal; and

20 means for carrying at least one of the first receiving element, the first receiver and the at least the first alert device.

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182. An underwater alert system comprising:

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concluded*
5 a first transmitter assembly, adapted to be carried by a first person while the first person is underwater, for transmitting a wireless signal responsive to receiving data related to at least one of the first person's body, equipment, and environment; and

a first receiver assembly, adapted to be carried by a second person while the second person is underwater, for communicating to the second person information related to the data responsive to receiving the wireless signal.
